STRUCTURE 79
Franklin Lock

This structure is a reinforced concrete, gated spillway with discharge controlled by eight chain operated, vertical lift gates and a reinforced concrete lock with two sets of sector gates. Operation of one of the spillway gates is automatically controlled so that the gate is operated in accordance with the operational criteria. The structure is located on Canal 43 (the Caloosahatchee River) about 30 miles east of S-78 and about 7 miles from tidewater.

PURPOSE

The structure maintains optimum upstream water control stage of 3.0 in Canal 43; it passes the design flood (30% of the Standard Project Flood) without exceeding the upstream flood design stage; and restricts downstream flood stages and channel velocities to non-damaging levels and to prevent saline intrusion during high tide and low upstream water surface elevations.

SPILLWAY OPERATING CRITERIA

This structure is operated and maintained by the U.S. Corps of Engineers so as to pass the base flow automatically. Larger flows are controlled by all of the gates.

When the headwater elevation rises to 3.2 feet, the gate begins to open at 6 inches per minute, with a maximum of 12.0 ft. opening.

When the headwater elevation rises or falls to elevation 3.0, the gate becomes stationary.

When the headwater elevation falls to 2.8, the gate begins to close at 6 inches per minute.

The two end gates are equipped with skimmer gates which can be manually operated to remove debris.

If the flow cannot be passed by the manually controlled gate, other gates with manual controls are to be opened.

FLOOD DISCHARGE CHARACTERISTICS

	Design	Standard Project Flood
Discharge Rate	28,900 cfs	_____ cfs
	30 % SPF	100 % SPF
Headwater Elevation	4.4 feet	8.4 feet
Tailwater Elevation	3.9 feet	3.0 to 7.9 feet

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Type Discharge _____ _____

DESCRIPTION OF SPILLWAY STRUCTURE

Type reinforced concrete, gated spillway

Weir Crest

Net Length 304.0 feet

Elevation -15.0 feet

Service Bridge Elevation 10.5 feet

Water Level which will by-pass structure 10.5 feet

Gates

Number 8

Size 19.2 ft. high by 38.8 ft. wide

Type vertical slide gates

Bottom elevation of gates, full open 5.4 feet

Top elevation of gates, full closed 4.2 feet

Control On-site automatic on #4 gate, all others manual

Lifting Mechanism

Normal power source commercial electricity

Emergency power source gasoline motor driven generator

Type Hoist traveling crane with electric motor driven drums and chain lifts

ACCESS: from SR 80A via access road, the south end of which is about 1,500 feet west of intersection of roads 80 and 80A

HYDRAULIC AND HYDROLOGIC MEASUREMENTS

Water Level On-site, dual recorder

Gate Position Recorder On-site

DEWATERING FACILITIES

Storage U.S. Corps of Engineers

Type Bulkhead gates

Size and Number (per bay) 10

39'-9" long X 4'-6" high

2'-10"+ wide

Each spillway gate section can be dewatered by using ten bulkheads. The bulkheads can be stacked on top of each other to a maximum of 5 on the upstream and 5 on the downstream side. Each bulkhead is 4'-5" high, 2'-10" wide and 39'-9" long.